



ENTERPRISE LEVEL **STORAGE OS**  
for EVERY BUSINESS

## *Failover Solutions with Open-E Data Storage Server (DSS V6)*



Easy to use, GUI based management provides performance and security.



Reliable disk based backup and recovery, along with Snapshot capability enable fast and reliable backup and restore.



Easy to implement remote Replication, at block or volume level, enables cost-effective disaster recovery.



IP based storage management combines NAS and iSCSI functionality for centralized storage and storage consolidation.

Software Version: DSS ver. 6.00 up85

Presentation updated: September 2011

[www.open-e.com](http://www.open-e.com)

- Open-E DSS supports two types of *Failover* over a LAN:
  - *Failover* for iSCSI appliances using Synchronous Volume Replication
  - *Failover* for NFS appliances using Synchronous Volume Replication

	Replication Mode		Source/Destination			Data Transfer		Volume Type			
	Synchronous	Asynchronous	w/ System	LAN	WAN	File based	Block based	NAS	iSCSI		FC
									File-IO	Block-IO	
iSCSI Failover (using Synchronous Volume Replication)	✓			✓			✓			✓	
NSF Failover (using Synchronous Volume Replication)	✓			✓			✓	✓			

**Auto Failover on a LAN using Volume Replication for NAS (NFS) or iSCSI** is a fault tolerant process via NFS or iSCSI Volume Replication that creates mirrored target data volumes.

- Data is copied in real-time.
- Every change is immediately mirrored on the secondary storage server.
- In the case of a failure, scheduled maintenance of the primary server, or loss of the primary data source, failover automatically switches operations to the secondary storage server so all processing can continue as usual.

## iSCSI FAILOVER USING VOLUME REPLICATION BETWEEN TWO SYSTEMS WITHIN ONE LAN

### ■ Recommended Resources

- Key Hardware (two systems)
  - ✓ x86 compatible
  - ✓ RAID Controller with **Battery Backup Unit**
  - ✓ HDD's
  - ✓ Network Interface Cards
  - ✓ Ping Node (ping node can be any permanently (24/7) available host in the network. Alternatively the ping node function can be performed by the server storing the data on the iSCSI failover volume.
- Software
  - ✓ Open-E DSS, 2 units

### ■ Benefits

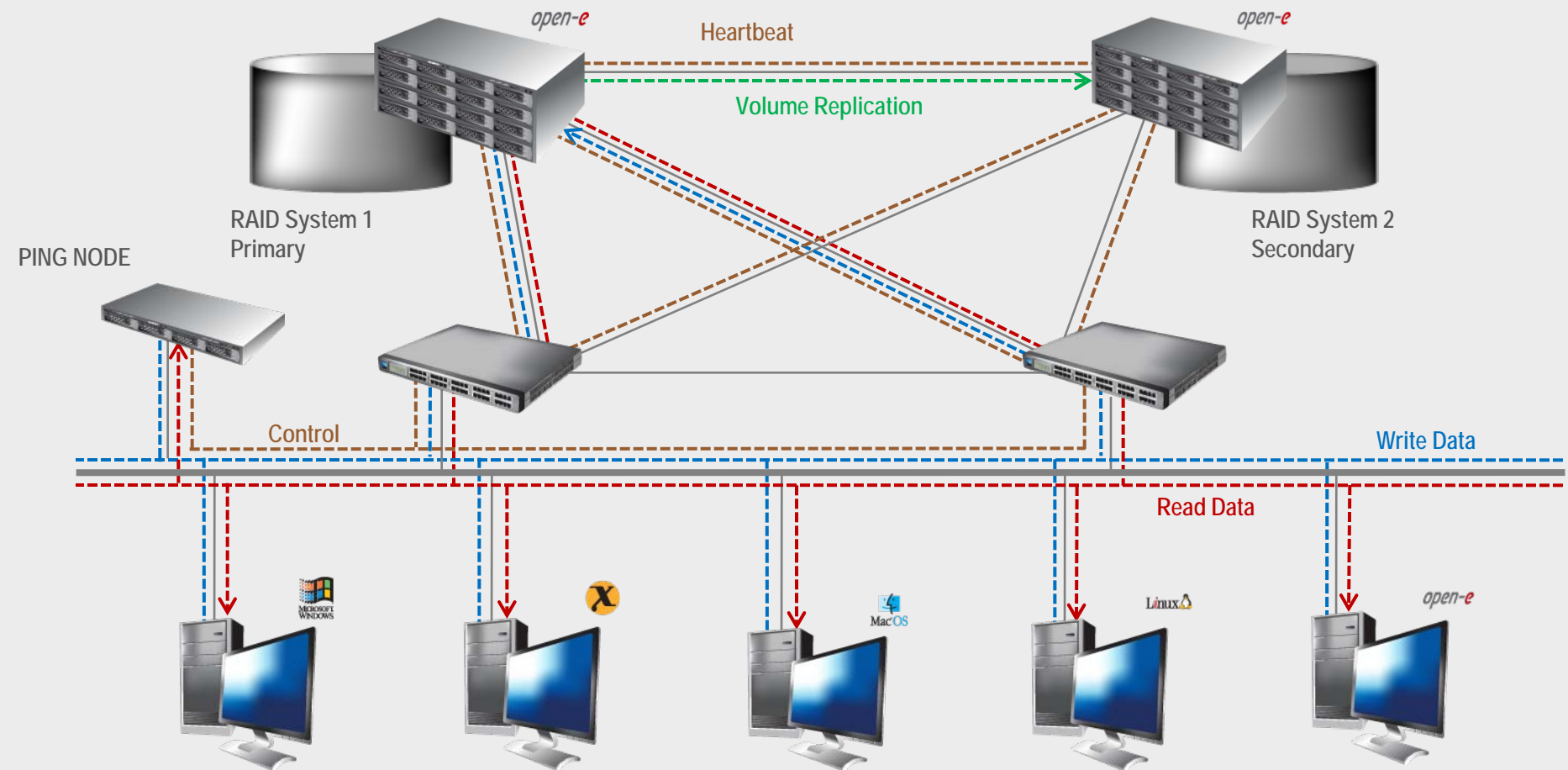
- Eliminates business disruption
- Provides data redundancy over a LAN
- Enables switch redundancy

### ■ Disadvantages

- Higher cost solution
- Natural disasters can destroy both local systems

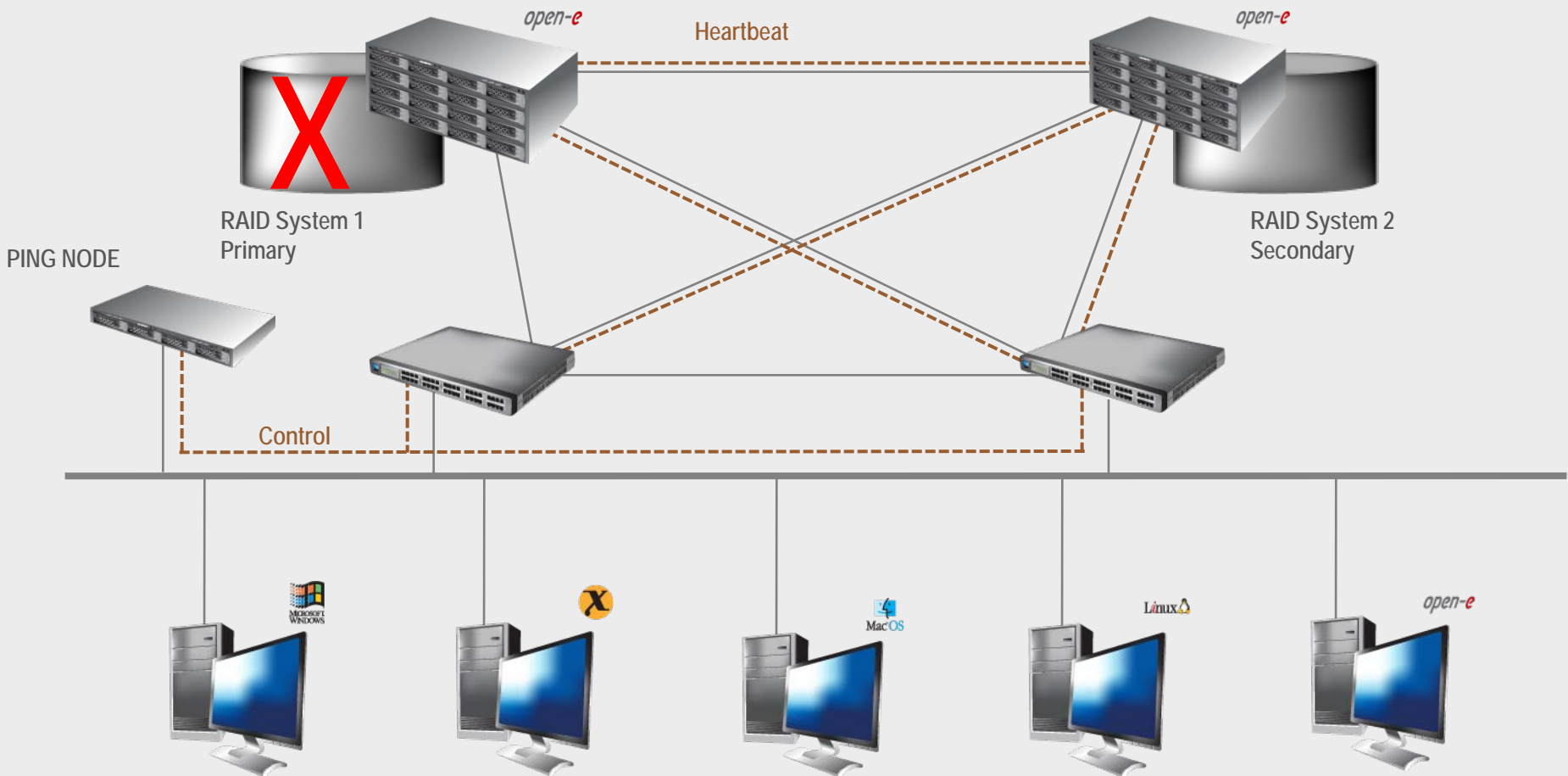
# iSCSI Failover using Volume Replication

- Data is written and read on System 1 (primary)
- Data is continually replicated to System 2 (secondary)



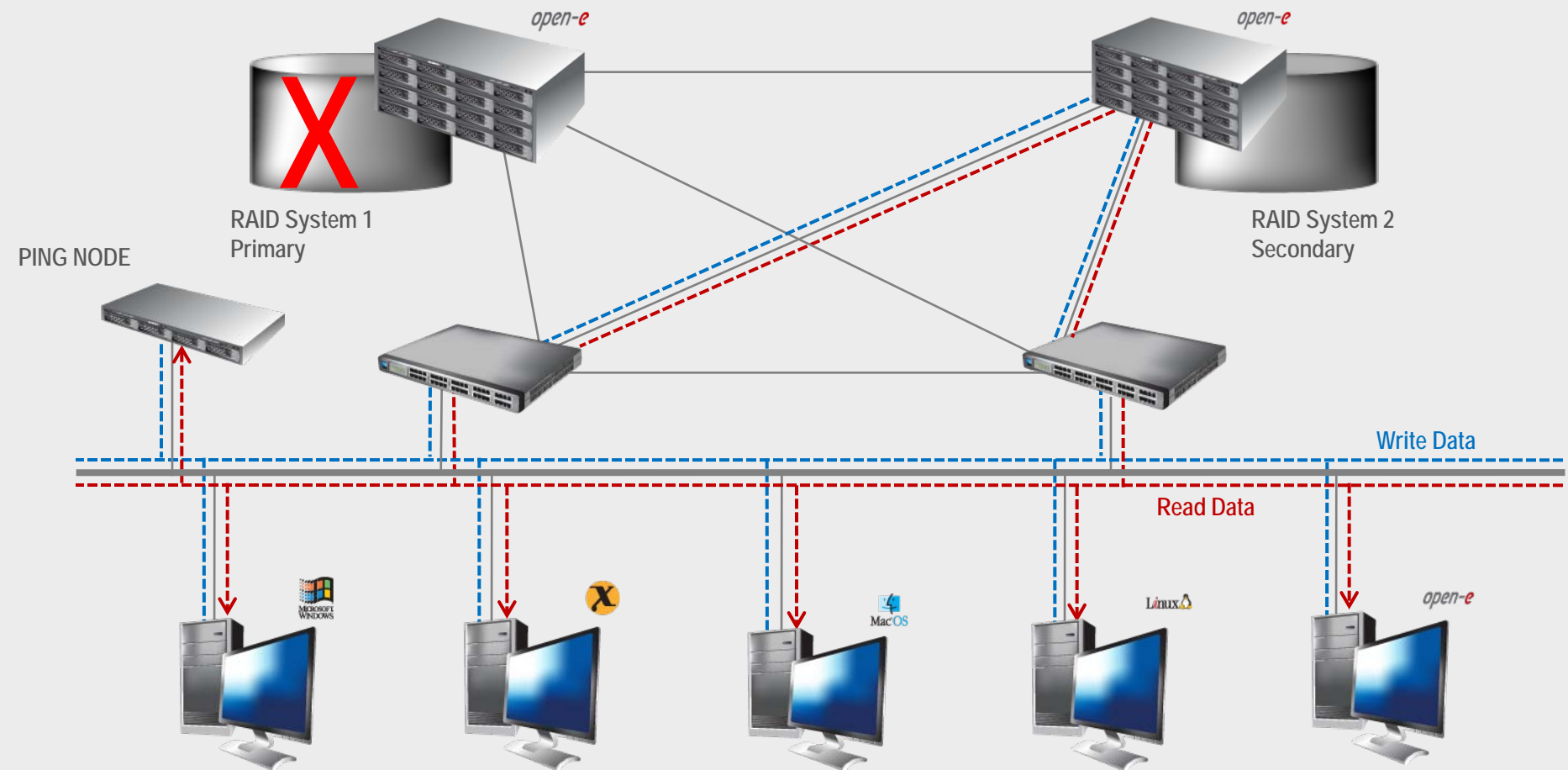
# iSCSI Failover using Volume Replication

- In the case of a system malfunction, power failure or loss of network connection on System 1 (primary), the server will send an e-mail notification to the administrator.
- Automatic Failover is executed and users are switched to System 2 (secondary).



# iSCSI Failover using Volume Replication

- After switchover, the replicated volume is available on System 2 (secondary)



## NFS FAILOVER USING VOLUME REPLICATION BETWEEN TWO SYSTEMS WITHIN ONE LAN

### ■ Recommended Resources

- Key Hardware (two systems)
  - ✓ x86 compatible
  - ✓ RAID Controller with **Battery Backup Unit**
  - ✓ HDD's
  - ✓ Network Interface Cards
  - ✓ Ping Node (ping node it is any permanently (24/7) available host in the network. Alternatively the ping node function can be performed by the server storing the data on the failover volume).
- Software
  - ✓ Open-E DSS V6, 2 units
  - ✓ NFS Failover Feature Pack, 2 license keys.

### ■ Benefits

- Eliminates business disruption
- Data Redundancy over a LAN
- Switch Redundancy

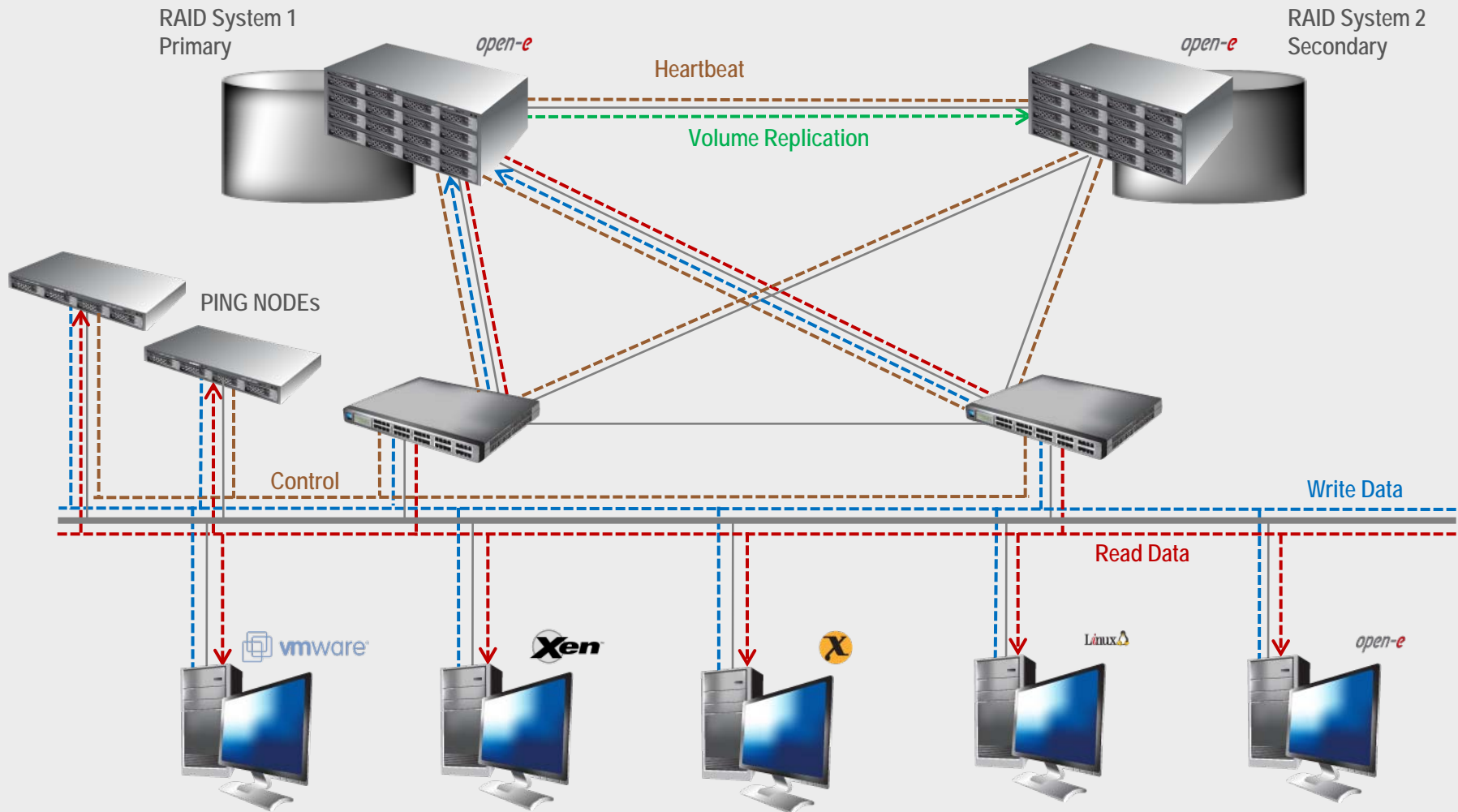
### ■ Disadvantages

- Higher cost of solution
- Natural disasters (earthquake, fire, flood...) can destroy both local systems



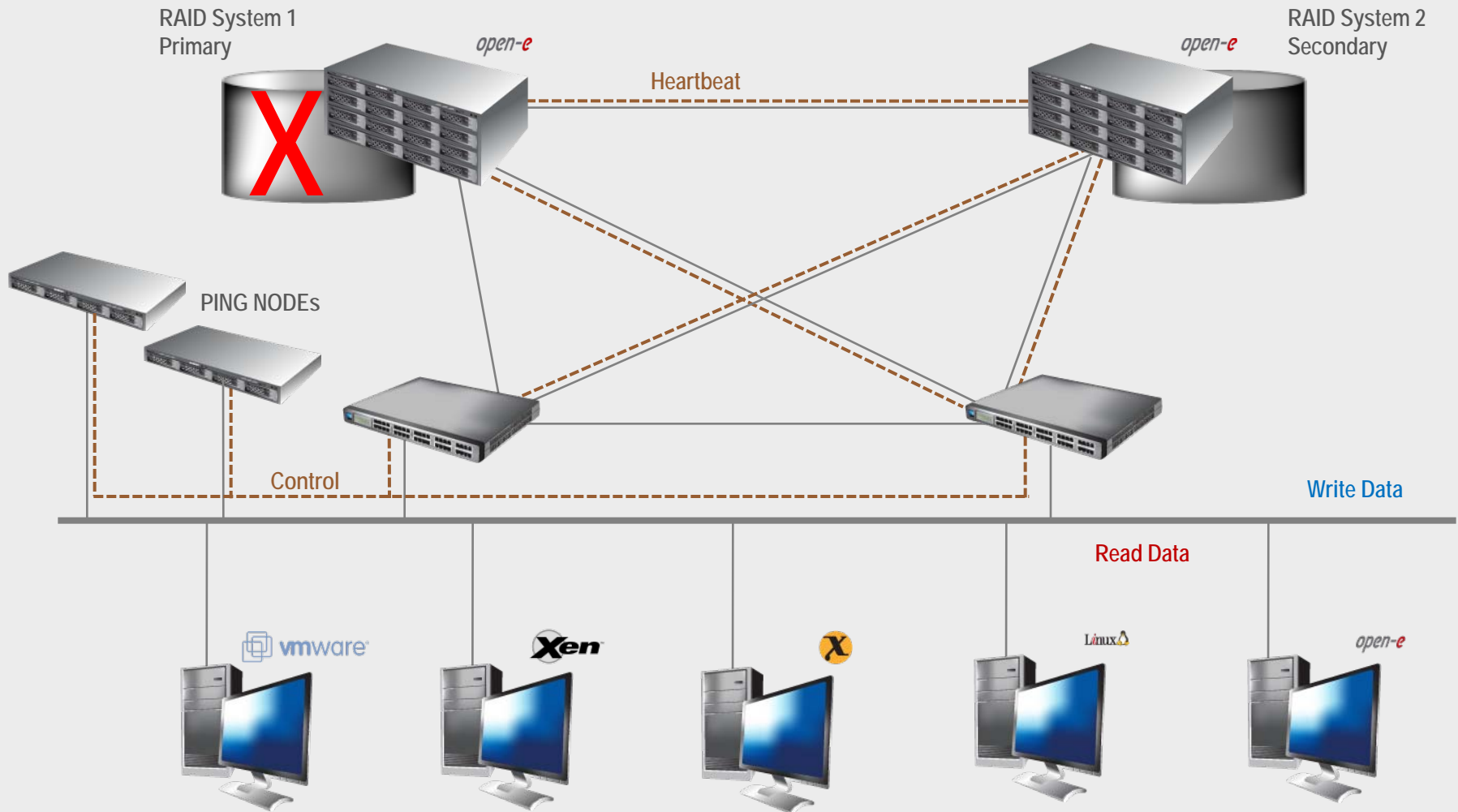
# NFS Failover using Volume Replication

- Data is written and read on System 1 (primary)
- Data is continually replicated to System 2 (secondary)



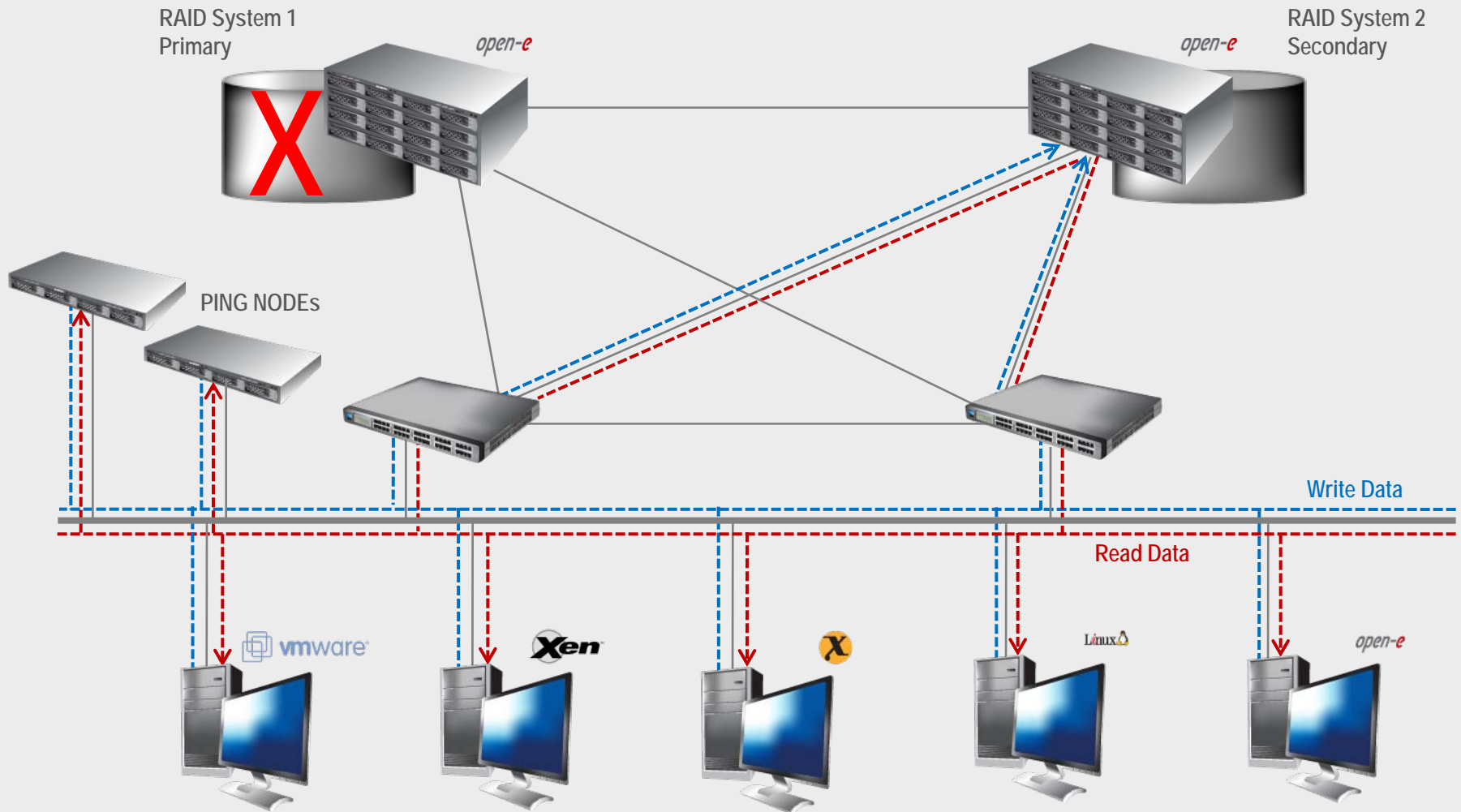
# NFS Failover using Volume Replication

- In the case of system malfunction, power failure or lost network connection on System1 (primary), the server will send an e-mail Notification to the administrator.
- Automatic Failover is executed and users are switched to System 2 (secondary).



# NFS Failover using Volume Replication

- After switchover, the replicated volume is available on System 2 (secondary)



Thank you!